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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/796,259

03/09/2004

James L. Ferguson

OSVRP152USA

2380

45253

7590

10/24/2008

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EXAMINER

HOLTON, STEVEN E

ART UNIT

PAPER NUMBER

2629

MAIL DATE

DELIVERY MODE

10/24/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/796,259	Applicant(s) FERGASON, JAMES L.	
	Examiner Steven E. Holton	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,16-30 and 36-48 is/are pending in the application.
- 4a) Of the above claim(s) 3-15 and 31-35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,16-30 and 36-48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is made in response to applicant's response to the election/restriction filed on 7/28/2008. Claims 1, 2, 16-30, and 36-48 are currently pending in the application. An action follows below:

Election/Restrictions

2. Applicant's election of Group I in the reply filed on 7/28/2008 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Art Unit: 2629

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1, 26, 27, 37, 38, and 45-48 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 15 of U.S. Patent No. 5,717,422. Although the conflicting claims are not identical, they are not patentably distinct from each other because:

Claim 1 of the current application	Claim 15 of the '422 patent
A method for displaying an image, comprising:	A method for displaying an image
Receiving image data representative of respective images, receiving brightness data representative of the brightness of respective images,	An image represented by input signals indicating contrast and brightness information of the image... input signals...representing characteristics or the image to form the image for display
Based on the image data, modulating light from a light source to provide respective images,	Directing light from a light source to a passive light modulating display apparatus, supplying the input to the display apparatus representing characteristics of the image to form the image for display
Based on brightness data, adjusting light from the light source to affect brightness of	Controlling the intensity of the light illuminating the display apparatus from the

the image	light source as a function of such brightness information...the intensity of light provided to the passive light modulating display apparatus to alter the brightness of the image
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Regarding claims 26, 37, and 45-48, the '422 patent does not expressly disclose a transfer medium, memory, or a specific type of display device. However, it would be obvious to one of ordinary skill in the art to use a transfer medium and memory for transmitting information to a display system and for storing information for use within the system. Also, liquid crystal display devices are well known passive light modulating display devices. It would have been obvious to one of ordinary skill in the art that the display system of the '422 patent could be formed of a liquid crystal display device or other types of display devices as described in claim 47. Thus, independent claims 26, 37, and 45-48 and obvious in light of claims 1 and 15 of the '422 patent.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 17, 47, and 48 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 17, the claim states, "control tending to maximize performance of the passive display." This is unclear what performance of the display is being maximized. Is the contrast of the display being maximized? Is the pixel change time between images being maximized? Is the battery life being maximized? Is the brightness of the display being maximized? Is the number of gray scales to be used in a given frame being maximized? It is unclear what particular aspect of the passive display device performance is being maximized and therefore the scope of the claim cannot be determined.

Regarding claims 47 and 48, the phrase "or the like" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 16, 26, 27, 37, 38, and, 44-48 are rejected under 35 U.S.C. 102(a) as being anticipated by Fuller (USPgPub: 2002/0171617).

Regarding claim 1, Fuller discloses a method for displaying an image including receiving image data and modulating light from a light source to provide an image (Figs. 7 and 8, output Vadj is transmitted to the display device, elements 500, 710, and 720, to display an image; paragraph 69) and also receiving brightness data and adjusting light from the light source to affect the brightness of the image (Figs. 7 and 8, output Cadj is used to adjust the backlight, element 124, to display an image with correct brightness; paragraph 68).

Regarding to claim 16, Fuller discloses a display system with a passive display device (Fig. 7, element 500) for displaying an image that controls the brightness of the light transmitted to the display device (Fig. 7, element Badj) to control the displayed image (paragraphs 68 and 69).

Regarding claim 26, Fuller discloses a passive display device with a light source (Fig. 7, elements 500 and 124) and drive circuitry to control the display device (Fig. 7, elements 710 and 720). Fuller does not expressly disclose a transfer medium but inherently there must be a transfer medium of the image data and control data being transmitted to the display device and the backlight for controlling the system.

Regarding claim 27, Fuller discloses using a computer system for transmitting data to the display system (Fig. 7, element 800).

Regarding claim 37, Fuller discloses a method of adjusting images comprising adjusting characteristics of the input light and storing the adjusted characteristics for use to adjust the input light provided to the passive display (paragraph 68).

Regarding claim 38, Fuller operates the adjustment of the backlight actively and it will be performed while viewed by a viewer (paragraph 68).

Regarding claim 44, Fuller discloses transmitting image data and intensity data separately to a display device (Fig. 7, the different transmission paths for V_{adj} and C_{adj}).

Regarding claim 45, Fuller discloses adjusting the illumination intensity of a display device to adjust the brightness of a frame displayed on a display device (Figs. 3 and 4, paragraph 68).

Regarding claim 46, Fuller discloses a computer/circuit for determining the required brightness (Fig. 7, element 800) and adjusting the brightness of an image to be displayed on a display device (paragraph 68).

Regarding claim 47, Fuller discloses a liquid crystal display device (Fig. 1, element 130) for receiving input data about the image and brightness of the image (Fig. 7, elements Vadj and Cadj) for displaying the images and adjusting the illumination of the displayed image (paragraphs 68 and 69).

Regarding claim 48, Fuller discloses using a processor (Fig. 7, element 800) for determining brightness of images and providing control to control the illumination of a display device (Fig. 7, element Cadj; paragraph 68).

6. Claims 1, 2, 16, 26-28, 36, 37, and, 44-48 are rejected under 35 U.S.C. 102(e) as being anticipated by Daly (USPqPub: 2003/0090455).

Regarding claim 1, Daly discloses a method of operating a display device including receiving image data and using the image data to provide an image on a display device (Fig. 3, element 74; paragraph 25) and receiving brightness data and using the brightness data to adjust the light from a light source to affect the brightness of an image (Fig. 3, element 82 transmits the brightness data for use by the light source controller; paragraphs 23 and 25).

Regarding claim 2, Daly discloses adjusting the gamma of the images (paragraph 26).

Regarding claim 16, Daly discloses controlling the illumination of a displayed image based on illumination data (paragraphs 23 and 25).

Regarding claim 26, Daly discloses a passive display device (Fig. 1, element 20) with a light source (Fig. 1, element 22). Daly further discloses transmitting illumination

Art Unit: 2629

data to a drive circuitry for controlling the illumination of the light source (Fig. 2, transmitting data to element 54).

Regarding claim 27, Daly discloses transmitting the image data separately and in parallel with the illumination data (Figs.3-5, elements 74 and 82) and using a transfer medium of a processing unit (Fig. 2, element 58) for transmitting both sets of data.

Regarding claim 28, Daly discloses controlling the gamma of the light source and display (paragraph 26).

Regarding claim 36, Daly discloses a display system including an apparatus for evaluating image and illumination data (Fig. 2, element 58) to control the gamma of the illumination source for displaying an image (paragraph 26). Daly does not expressly mention an image obtaining device to provide the image data, but such an element is inherent within a display system of Daly. Without an image obtaining device there would be no image data to be processed by the data processing unit thus, there must be some element for providing the input data for processing that is the image obtaining device.

Regarding claim 37, Daly discloses a display system that uses input data to adjust the characteristics of light output from the light source of the display device (paragraphs 25 and 26). Daly further discloses that the information can be stored and applied at later times based on the operation of the display system (paragraph 35, applying the information across multiple images requires the data to be stored for continued use). The Examiner notes that storing the results of the calculation so the data can be transmitted to the controller of the backlight would require some buffer or

Art Unit: 2629

memory device to hold the results of the calculations until time to transmit the data.

Thus, there is inherently some memory element used for storing the adjusted information for transmission to the control systems for operating the display system.

Regarding claims 44-48, Daly discloses a display system with a processor (Fig. 2, element 58) that receives image data and processes that data to separate it into image data and luminance data and transmits the data separately to the display device (Figs. 3-5, elements 74 and 82; paragraphs 24-26). Daly further discloses using liquid crystal display device (paragraph 18) and performing the separation of image data and illumination data from multiple images in sequence (paragraph 35).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 18-25, 29, 30, and, 39-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Daly.

Regarding claim 18, Daly discloses a system for adjusting the illumination characteristics of a light source for a display device (paragraphs 24-26). Daly further discloses using a color display device and adjusting the illumination based on the color components of the display device (paragraph 25).

Daly does not expressly disclose adjusting the illumination characteristics to optimize or maximize the color fidelity of the display device.

At the time of invention it would have been obvious to one of ordinary skill in the art to optimize or maximize the performance of the display device for adjustment of the color fidelity of the display device. Color fidelity is well known in the art of display devices dealing with having a display device reproduce colors as perfectly as possible. Thus, it would have been a matter of design choice to adjust the operation of the display to produce a desired level of color fidelity. This could include optimized or maximized color fidelity based on the choices made during production of the display system. Thus, it would have been a matter of design choice to design a display system for adjusting the illumination of an image with optimized color fidelity based on the display system.

Regarding claim 19, Daly discloses a display system including a display device with a processor (Fig. 2, element 58) for analyzing input data into image data and illumination data (Figs. 3-5; paragraphs 24-26). The data is used to control the brightness of the back light and the gamma characteristics of the display device and adjusting the gray scale of the display device based on the calculated illumination data (paragraphs 25-26).

However, Daly does not expressly disclose selecting the operation of the light source to minimize energy usage, maximize contrast or shades of gray, or to maximize color fidelity of displayed images.

At the time of invention it would have been a matter of design choice to choose to adjust the light source of the display to minimize energy usage, maximize contrast,

Art Unit: 2629

adjusting gray scale or maximizing color fidelity of the display. All of these elements are known parameters of a display device that are affected by adjustment of the display device and backlight control. Therefore, it would have been a matter of design choice for one of ordinary skill in the art to select operating parameters that would minimize energy usage, maximize contrast, color fidelity or grayscales of the display device based on desired operation of the device.

Regarding claims 20, 21, and 23, Daly discloses transmitting the data within a computer processing environment (Fig. 2, element 58). The use of radio or modulated video signals, the use of memory devices such as dvds, cds, tape, computer memory and hard drives, and providing digitized data in a computer system are all well known in the art. The Examiner takes Official Notice that the use of these types of digital signals and storage devices would be obvious to one of ordinary skill in the art in a digital display system described by Daly.

Regarding claim 22, the Examiner takes Official Notice that the use of a multiplexer for transmitting multiple sets of data from one device to another is well known in the art of data transmission. At the time of invention it would have been obvious to one of ordinary skill in the art that a multiplexer could be used to aid in the transmission of data within the display system described by Daly for transmitting different sets of data along the same communications path.

Regarding claim 24, the claim is similar to claim 19 in the use of display data for operating a display device to minimize energy usage, maximizing contrast of data provided to the display system. The use of parameters to maximize or minimize

Art Unit: 2629

aspects of the system would be a matter of design choice as discussed above in regards to claim 19. Also the transmission of the data within the system of Daly (from the processor to the display and within the processor) require the use of some type of transfer medium which is well known in the art of the computer devices. Thus, the display system described in claim 24 would have been obvious to one of ordinary skill in the art in view of the teachings of Daly.

Regarding claim 25, Daly discloses considering data from a sequence of images or multiple images (paragraph 35).

Regarding claim 29, as discussed above, Daly discloses all of the limitations except "tending to minimize energy usage by the display system."

At the time of invention it would have been a matter of design choice to design the system to select operating parameters that tend to minimize the energy usage of the display system. Optimization, minimizing, or maximizing of operating parameters of a device are well known as design choice based on the desired operation of the device. Thus, it would have been obvious to one of ordinary skill in the art to control the display device to minimize energy use of the system.

Regarding claim 30, similar to claim 29, Daly does not expressly disclose maximizing contrast, the shades of gray, or the color fidelity of the display system. However, choosing operating parameters to maximize one of these elements would be a matter of design choice to one of ordinary skill in the art. Optimization, minimizing, or maximizing of operating parameters of a device are well known as design choice based on the desired operation of the device.

Regarding claim 39, as discussed above Daly discloses all of the limitations except, "manually adjusting".

At the time of invention it would have been obvious to one of ordinary skill in the art that the automatic calculation system used by Daly (Fig. 2, element 58) could be adjusted to be made manual for adjustment of the parameters. Editing image data of still images on display devices is well known in the art and manual manipulation of the image data is further well known in many well known graphics editing programs. Thus, the adjustment of the illumination of the image data could be made manual instead of automatic.

Regarding claims 40 and 41, Daly discloses adjusting the illumination of the displayed image and adjusting the gamma of the displayed image (paragraphs 25 and 26). At the time of invention choosing the adjust the brightness of the displayed image to make it appear darker, lighter, or the same as the originally input data would be a matter of design choice. It is well known in the art how to brighten or darken an image for display on a display device. Choosing to adjust the illumination parameters of an image to make the image appear darker, lighter, or any other desired level would be a matter of design choice.

Regarding claim 42, Daly discloses calculating the mean illumination value and suggests using other types of statistical calculation methods for adjusting the brightness of the backlight (Fig. 5; paragraph 34).

Regarding claim 43, Daly discloses calculating the illumination data for a series of images rather than a single image (paragraph 35).

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven E. Holton whose telephone number is (571)272-7903. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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October 21, 2008
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